CLAIM AMENDMENTS

1. (Currently Amended) In a system comprising a first computer coupled to ~~one or more controllers, wherein each controller is coupled to one or more of a plurality of recording~~ first and second storage devices, a method ~~that comprises~~ for providing copies of data for disaster recovery, the method comprising:

~~obtaining a first map that provides a cross-reference between a hardware address for a respective recording device and a first device identifier that is associated with the respective recording device, wherein the first device identifier represents the respective recording device to programs executing in the first computer and the hardware address identifies the respective recording device and the controller to which it is coupled;~~

cross-referencing (a) a hardware address identifying the first storage device and (b) a first device identifier for representing the first storage device to a program in the first computer;

cross-referencing (a) a hardware address identifying the second storage device and (b) a first device identifier for representing the second storage device to a program in the first computer;

~~obtaining a copy group definition of a copy group that specifies a copy group identifier and specifies one or more pairs of the recording devices assigned to the copy group by information other than first device identifiers; and~~

pairing the first and second storage devices;

grouping the pair in a copy group by information other than first device identifiers;

identifying the copy group; and

establishing ~~in response to the first map and the copy group definition a copy group map that provides a cross reference between~~ cross-referencing the copy-group identifier and the first device identifiers of the ~~one or more pairs of recording devices assigned to the copy group~~pair.

2. (Previously Presented) The method according to claim 1 that comprises:

receiving a first input specifying one or more first device identifiers;

obtaining one or more hardware addresses in response to the first input; and

establishing the first map by associating the one or more hardware addresses with one or more first device identifiers.

3. (Previously Presented) The method according to claim 2, wherein:

the first computer receives the first input and, in response, sends one or more commands to a respective controller;

the respective controller obtains at least some of the one or more hardware addresses in response to the one or more commands by interogating either or both of control information in the respective controller and recording devices coupled to the respective controller, and sends the obtained hardware addresses to the first computer; and

the first computer establishes the first map.

4. (Previously Presented) The method according to claim 3, wherein:

the first computer comprises a channel subsystem that controls transfers of data between the first computer and one or more recording devices coupled to the respective controller;

the first computer is coupled to the respective controller by a first data communication path that is a channel path coupled to the channel subsystem;

the one or more commands are conveyed to the respective controller by a channel program comprising one or more channel command words generated by the channel subsystem; and

hardware addresses obtained by the respective controller are conveyed to the first computer through the first data communication path as one or more responses to the channel program.

5. (Previously Presented) The method according to claim 3, wherein the respective controller determines whether a respective recording device is capable of responding to a query command and returns the hardware address of the respective recording device only if the respective recording device is capable of responding to the query command.

6. (Previously Presented) The method according to claim 1, wherein each of the plurality of recording devices has a recording medium with a medium identifier that identifies the recording medium, and the first map also provides a cross-reference between medium identifiers and either or both of hardware addresses and first device identifiers for respective recording devices, and wherein the method comprises: establishing the copy-group map also to provide a cross-reference between the copy-group identifier and the medium identifiers for the one or more pairs of recording devices assigned to the copy group.

7. (Previously Presented) The method according to claim 1, wherein the system comprises a second commuter counted to one or more controllers of which at least one of the controllers is coupled to one or more recording devices that are in the one or more pairs of recording devices assigned to the copy group, the method comprising:

obtaining a second map that provides a cross-reference between the hardware address of the respective recording device and a second device identifier that is associated with the respective recording device, wherein the second device identifier represents the respective recording device to programs executing in the second computer; and

establishing the copy-group map also to provide a cross-reference between the copy-group identifier and the second device identifiers of the one or more recording devices that are in the one or more pairs of recording devices assigned to the copy group.

8. (Previously Presented) The method according to claim 7 that comprises:

receiving a second input specifying one or more second device identifiers;

obtaining one or more hardware addresses in response to the second input; and

establishing the second map by associating the one or more hardware addresses with the one or more second device identifiers.

9. (Previously Presented) The method according to claim 8, wherein:

the second computer receives the second input and, in response, sends one or more commands to a respective controller;

the respective controller obtains at least some of the one or more hardware addresses in response to the one or more commands by interogating either or both of control

information in the respective controller and recording devices coupled to the respective controller, and sends these obtained hardware addresses to the second computer; and

the second computer establishes the second map.

10. (Previously Presented) The method according to claim 9, wherein:

the second computer comprises a channel subsystem that controls transfers of data between the second computer and one or more recording devices coupled to the respective controller;

the second computer is coupled to the respective controller by a second data communication path that is a channel path coupled to the channel subsystem;

the one or more commands are conveyed to the respective controller by a channel program comprising one or more channel command words generated by the channel subsystem; and

hardware. addresses obtained by the respective controller are conveyed to the second computer through the second data communication path as one or more responses to the channel program.

11. (Currently Amended) A storage medium ~~conveying a program of instructions for execution by one or more devices to perform a method in a system comprising a first computer coupled to one or more controllers, wherein each controller is coupled to one or more of a plurality of recording devices, and wherein the method comprises:~~

~~obtaining a first map that provides a cross-reference between a hardware address for a respective recording device and a first device identifier that is associated with the respective recording device, wherein the first device identifier represents the respective recording device to programs executing in the first computer and the hardware address identifies the respective recording device and the controller to which it is coupled;~~

~~obtaining a copy group definition of a copy group that specifies a copy group identifier and specifies one or more pairs of the recording devices assigned to the copy group by information other than first device identifiers; and~~

~~establishing in response to the first map and the copy group definition a copy group map that provides a cross reference between the copy group identifier and the first device identifiers of the one or more pairs of recording devices assigned to the copy group~~

wherein is located a computer program for executing the method of claim 1.

12. (Currently Amended) ~~The~~ A storage medium ~~according to claim 11, wherein the method comprises:~~

~~receiving a first input specifying one or more first device identifiers;~~

~~obtaining one or more hardware addresses in response to the first input; and~~

~~establishing the first map by associating the one or more hardware addresses with one or more first device identifiers~~

wherein is located a computer program for executing the method of claim 2.

13. (Currently Amended) ~~The~~ A storage medium ~~according to claim 12, wherein:~~

~~the first computer receives the first input and, in response, sends one or more commands to a respective controller;~~

~~the respective controller obtains at least some of the one or more hardware addresses in response to the one or more commands by interrogating either or both of control information in the respective controller and recording devices coupled to the respective controller, and sends the obtained hardware addresses to the first computer; and~~

~~the first computer establishes the first map~~

wherein is located a computer program for executing the method of claim 3.

14. (Currently Amended) ~~The~~ A storage medium ~~according to claim 13, wherein:~~

~~the first computer comprises a channel subsystem that controls transfers of data between the first computer and one or more recording devices coupled to the respective controller;~~

~~the first computer is coupled to the respective controller by a first data communication path that is a channel path coupled to the channel subsystem;~~

~~the one or more commands are conveyed to the respective controller by a channel program comprising one or more channel command words generated by the channel subsystem; and~~

~~hardware addresses obtained by the respective controller are conveyed to the first computer through the first data communication path as one or more responses to the channel program~~

wherein is located a computer program for executing the method of claim 4.

15. (Currently Amended) ~~The~~ A storage medium ~~according to claim 13, wherein the respective controller determines whether a respective recording device is capable of responding to a query command and returns the hardware address of the respective recording device only if the respective recording device is capable of responding to the query command~~ wherein is located a computer program for executing the method of claim 5.

16. (Currently Amended) ~~The~~ A storage medium ~~according to claim 11, wherein each of the plurality of recording devices has a recording medium with a medium identifier that identifies the recording medium, and the first map also provides a cross-reference between medium identifiers and either or both of hardware addresses and first device identifiers for respective recording devices, and wherein the method comprises:~~

~~establishing the copy group map also to provide a cross reference between the copy group identifier and the medium identifiers for the one or more pairs of recording devices assigned to the copy group~~

wherein is located a computer program for executing the method of claim 6.

17. (Currently Amended) ~~The~~ A storage medium ~~according to claim 1-1, wherein the system comprises a second computer coupled to one or more controllers of which at least one of the controllers is coupled to one or more recording devices that are in the one or more pairs of recording devices assigned to the copy group, and wherein the method comprises:~~

~~obtaining a second map that provides a cross reference between the hardware address of the respective recording device and a second device identifier that is associated with the respective recording device, wherein the second device identifier represents the respective recording device to programs executing in the second computer; and~~

~~establishing the copy group map also to provide a cross reference between the copy group identifier and the second device identifiers of the one or more recording devices that are in the one or more pairs of recording devices assigned to the copy group~~

wherein is located a computer program for executing the method of claim 7.

18. (Currently Amended) ~~The~~ A storage medium ~~according to claim 17, wherein the method comprises:~~

~~receiving a second input specifying one or more second device identifiers;~~

~~obtaining one or more hardware addresses in response to the second input; and~~

~~establishing the second map by associating the one or more hardware addresses with the one or more second device identifiers~~

wherein is located a computer program for executing the method of claim 8.

19. (Currently Amended) ~~The~~ A storage medium ~~according to claim 18, wherein:~~

~~the second computer receives the second input and, in response, sends one or more commands to a respective controller;~~

~~the respective controller obtains at least some of the one or more hardware addresses in response to the one or more commands by interogating either or both of control information in the respective controller and recording devices coupled to the respective controller, and sends these obtained hardware addresses to the second computer; and~~

~~the second computer establishes the second map~~

wherein is located a computer program for executing the method of claim 9.

20. (Currently Amended) ~~The~~ A storage medium ~~according to claim 19, wherein:~~

~~the second computer comprises a channel subsystem that controls transfers of data between the second computer and one or more recording devices coupled to the respective controller;~~

~~the second computer is coupled to the respective controller by a second data communication path that is a channel path coupled to the channel subsystem;~~

~~the one or more commands are conveyed to the respective controller by a channel program comprising one or more channel command words generated by the channel subsystem; and~~

~~hardware addresses obtained by the respective controller are conveyed to the second computer through the second data communication path as one or more responses to the channel program~~

wherein is located a computer program for executing the method of claim 10.

21. (Currently Amended) A computer system comprising ~~a first computer coupled to one or more controllers, wherein each controller is coupled to one or more of a plurality of recording devices, wherein the system comprises:~~

~~means for obtaining a first map that provides a cross reference between a hardware address for a respective recording device and a first device identifier that is associated with the respective recording device, wherein the first device identifier represents the respective recording device to programs executing in the first computer and the hardware address identifies the respective recording device and the controller to which it is coupled;~~

~~means for obtaining a copy group definition of a copy group that specifies a copy group identifier and specifies one or more pairs of the recording devices assigned to the copy group by information other than first device identifiers; and~~

~~means for establishing in response to the first map and the copy group definition a copy group map that provides a cross reference between the copy group identifier and the first device identifiers of the one or more pairs of recording devices assigned to the copy group~~

a CPU;

the storage medium of Claim 11; and

a bus coupling the CPU and the storage medium.

22. (Currently Amended) ~~The~~ A computer system according to claim ~~21~~ that comprises:

~~means for receiving a first input specifying one or more first device identifiers;~~

~~means for obtaining one or more hardware addresses in response to the first input; and~~

~~means for establishing the first map by associating the one or more hardware addresses with one or more first device identifiers~~

comprising:

a CPU;

the storage medium of Claim 12; and

a bus coupling the CPU and the storage medium.

23. (Currently Amended) ~~The~~ A computer system ~~according to claim 22, wherein:~~

~~the first computer comprises means for receiving the first input and, in response, sending one or more commands to a respective controller;~~

~~the respective controller comprises means for obtaining at least some of the one or more hardware addresses in response to the one or more commands by interogating either or both of control information in the respective controller and recording devices coupled to the respective controller, and for sending the obtained hardware addresses to the first computer; and~~

~~the first computer comprises means for establishing the first map~~

comprising:

a CPU;

the storage medium of Claim 13; and

a bus coupling the CPU and the storage medium.

24. (Currently Amended) ~~The~~ A computer system ~~according to claim 23, wherein:~~

~~the first computer comprises a channel subsystem that controls transfers of data between the first computer and one or more recording devices coupled to the respective controller;~~

~~the first computer is coupled to the respective controller by a first data communication path that is a channel path coupled to the channel subsystem;~~

~~the one or more commands are conveyed to the respective controller by a channel program comprising one or more channel command words generated by the channel subsystem; and~~

~~hardware addresses obtained by the respective controller are conveyed to the first computer through the first data communication path as one or more responses to the channel program~~

comprising:

a CPU;

the storage medium of Claim 14; and

a bus coupling the CPU and the storage medium.

25. (Currently Amended) ~~The~~ A computer system according to claim ~~23, wherein the respective controller comprises means for determining whether a respective recording device is~~

~~capable of responding to a query command and for returning the hardware address of the respective recording device only if the respective recording device is capable of responding to the query command~~

comprising:

a CPU;

the storage medium of Claim 15; and

a bus coupling the CPU and the storage medium.

26. (Currently Amended) ~~The~~ A computer system ~~according to claim 21, wherein each of the plurality of recording devices has a recording medium with a medium identifier that identifies the recording medium, and the first map also provides a cross-reference between medium identifiers and either or both of hardware addresses and first device identifiers for respective recording devices, and wherein the system comprises:~~

~~means for establishing the copy group map also to provide a cross-reference between the copy group identifier and the medium identifiers for the one or more pairs of recording devices assigned to the copy group~~

comprising:

a CPU;

the storage medium of Claim 16; and

a bus coupling the CPU and the storage medium.

27. (Currently Amended) ~~The~~ A computer system ~~according to claim 21 that comprises a second computer coupled to one or more controllers of which at least one of the controllers is coupled to one or more recording devices that are in the one or more pairs of recording devices assigned to the copy group, wherein the system comprises:~~

~~means for obtaining a second map that provides a cross-reference between the hardware address of the respective recording device and a second device identifier that is associated with the respective recording device, wherein the second device identifier represents the respective recording device to programs executing in the second computer; and~~

~~means for establishing the copy group map also to provide a cross-reference between the copy group identifier and the second device identifiers of the one or more~~

~~recording devices that are in the one or more pairs of recording devices assigned to the copy group~~

comprising:

a CPU;

the storage medium of Claim 17; and

a bus coupling the CPU and the storage medium.

28. (Currently Amended) ~~The~~ A computer system ~~according to claim 27~~ that comprises:

~~means for receiving a second input specifying one or more second device identifiers;~~

~~means for obtaining one or more hardware addresses in response to the second input;~~ and

~~means for establishing the second map by associating the one or more hardware addresses with the one or more second device identifiers~~

comprising:

a CPU;

the storage medium of Claim 18; and

a bus coupling the CPU and the storage medium.

29. (Currently Amended) ~~The~~ A computer system ~~according to claim 28, wherein:~~

~~the second computer compriss means for receiving the second input and, in response, sending one or more commands to a respective controller;~~

~~the respective controller comprises means for obtaining at least some of the one or more hardware addresses in response to the one or more commands by interogating either or both of control information in the respective controller and recording devices coupled to the respective controller, and for sending these obtained hardware addresses to the second computer; and~~

~~the second computer comprises means for establishing the second map~~

comprising:

a CPU;

the storage medium of Claim 19; and

a bus coupling the CPU and the storage medium.

30. (Currently Amended) ~~The~~ A computer system ~~according to claim 29, wherein:~~

~~the second computer comprises a channel subsystem that controls transfers of data between the second computer and one or more recording devices coupled to the respective controller;~~

~~the second computer is coupled to the respective controller by a second data communication path that is a channel path coupled to the channel subsystem;~~

~~the one or more commands are conveyed to the respective controller by a channel program comprising one or more channel command words generated by the channel subsystem; and~~

~~hardware addresses obtained by the respective controller are conveyed to the second computer through the second data communication path as one or more responses to the channel program~~

comprising:

a CPU;

the storage medium of Claim 20; and

a bus coupling the CPU and the storage medium.